REMARKS

Claims 1-56 are pending in this application. Claims 9-15, 24-30 and 37-43 were previously withdrawn from consideration. Claims 33 and 34 are cancelled and claims 49-56 are added by this amendment. As a result, claims 1-8, 16-23, 31, 32, 35, 36 and 44-56 are presently at issue in the application. Of these, claims 1, 16 and 31 are independent claims. Reconsideration is respectfully requested in view of the remarks below.

Claims 1, 16, and 31 are amended to more clearly recite that a controller produces a control signal for a field device and that a wireless link is disposed between the controller and field device for transmitting and receiving process control information, including the control signal, and secondary information between the field device and the controller. It is known in the art that a field device operates under the control of a process controller by receiving one or more process control signals from the controller and/or by providing one or more measurement signals of physical parameters associated with a process to the controller, to thereby communicate information about or to effect a change in a physical parameter of the process. A process controller itself is not a field device because it does not act upon a physical process variable nor does it measure a physical process variable within the process. Similarly, a field device is not a process controller because the field device does not produce a control signal, but merely receives a control signal from a process controller and implements the control signal. Thus, while some types of field devices, such as Smart field devices, include processors for managing the implementation of a control signal that is received from and produced by a process controller, a field device is not a controller because it does not itself produce a control signal.

As disclosed in the specification, a field device may be capable of providing or receiving secondary process control information in addition to process control information. Generally, process control information includes process control signals produced by a controller to change a physical parameter or measurement signals of physical parameters associated with a process under the control of a process controller. Secondary process control information includes information other than process control information. As discussed in the present application, secondary information may include diagnostic information (including sensor diagnostics, device diagnostics, wiring diagnostics, and process diagnostics), operating temperatures, calibration information, device ID numbers, error codes, materials of construction, programming information etc. When the field device is a device

operating to communicate with a process controller using a standard communication protocol, secondary information can also be information that is not defined by the communication protocol. For example, when the process control system implements a Fieldbus protocol, secondary information may include information relating to functions not specified in the Fieldbus specification. Applicants note that the claimed method and system provides, over a wireless communication link between a process controller and a field device, *both* process control information (e.g., process control signals or measurements signals) and secondary information (i.e., information other than process control information).

Applicants respectfully traverse the rejection of claims 1-8, 16-23, 31, 32, 35, 36 and 44-56 as obvious over McCain et al. (U.S. Patent No. 6,129,449) in view of Eidson et al. (U.S. Patent No. 5,586,305). Each of the pending claims recites a wireless communication link disposed between a controller that produces a control signal for a field device and the field device, where the wireless communication link is used for transmitting and receiving process control information, including the control signal produced by the controller, and secondary information between the controller and the field device. Neither McCain nor Eidson discloses a wireless communication link disposed between a controller and a field device that communicates both process control information (including a process control signal produced by the controller) and secondary information (non-process control information) between the controller and the field device. Therefore, no combination of McCain and Eidson renders pending claims 1-8, 16-23, 31, 32, 35, 36 and 44-56 obvious.

McCain et al. does not disclose a wireless link disposed between a controller and a field device, much less a wireless link that transmits and receives both process control and secondary information between a controller and a field device, nor is McCain et al. cited for this purpose. Instead, the Examiner cites Eidson et al. to remedy the deficiency. However, Eidson et al. also fails to disclose the claimed limitation.

Generally, Eidson discloses a process control system that can be flexibly configured using a plurality of definable nodes connected to each other by a communication means. Each definable node may be configured to be one of a sensor, actuator, or system node. Eidson discloses that the system node may implement a control function. Each node of Eidson is designed to specify the type of transducer (e.g., actuator or sensor, if any) that is coupled to the node and to translate information produced by the transducer for transmission on the communication bus. A node of Eidson implementing a transducer function includes a

core module 18, a communication module 22, and a transducer module 20. A transducer 21, being an actuator or sensor, is coupled to the node core module 18 via the transducer module 20. The transducer module 20 can be used to provide the node core module 18 characteristic data on the transducer 21 so that the node core module 18 can correctly interface and communicate with the transducer 21. The node core module 18 may then transform signals received from the transducer 21 via transducer module 20 into the appropriate format for transmission across a communication means to, for example, a controller. Each node of Eidson can receive process control signals (e.g., from a controller) which it may then transform or translate into the appropriate signal for transmission to transducer 21 (e.g., an actuator). Similarly, an Eidson node may receive a measurement signal from its transducer sensor via the transducer module 20 and adapt the message for transmission on the communication means to a controller. In this manner, the Eidson system enables various types of transducers 21 to be plugged into or removed from its system without having to modify existing components of its system. Additionally, Eidson discloses that the transducer 21 (being an actuator or sensor) may be disposed remotely from the node core via a wireless link. Alternatively, Eidson discloses that its transducer module 20 may be coupled to the core module 18 by a wireless link.

While Eidson et al. discloses a wireless link between a transducer and a transducer module and between a transducer module and a core module of the transducer module, Eidson does not disclose a wireless link between a controller and a field device that transmits and receives both a process control signal produced by the controller and secondary information between the field device and the controller, as recited by the pending claims. In particular, the office action cites the wireless communication link between the transducer 21 and transducer module 20 of the Eidson system for disclosing the claimed wireless link. However, the communication between the transducer 21 and transducer module 20 is limited to process information such as a control signal to the transducer or a measurement signal from the transducer. Eidson is silent regarding any secondary information being sent to the transducer nor does Eidson teach that the actuator or sensor serving as a transducer can provide any processing functionality to enable it to provide secondary information. Thus, the wireless communication link between the transducer module 20 and transducer 21 of Eidson is not the claimed communication link.

Moreover, when a node of Eidson is defined to include a transducer (e.g., an actuator or sensor), none of the transducer, the transducer module, or the core module of the transducer module, or any combination thereof, are the claimed controller because none of them produce a control signal for a field device. While the transducer module may implement a control signal for the transducer, the transducer module does not produce a control signal in any manner. The core module of the transducer is also not a controller that produces a control signal for transmission to a field device via a wireless link. Instead, the core module merely receives control signals from a controller via a communication means 14 for implementation by the transducer 21 via the transducer module 20 or the core module transforms a measurement signal from the transducer module for transmission to a controller. This is specifically discussed in Eidson at Col. 5, lines 17-19:

> When the transducer module 20 specifies and implements an actuator function, the CCM 18 implements an actuating signal and directs the transducing element 21 via the transducer module 20 to produce a corresponding physical result. When the transducer module 20 specifies and implements a sensing function, the transducing element 21 measures a single physical variable at times defined by the behavioral models specified in the CCM. The CCM transforms the resulting sensing signal into a correctly calibrated network message that can be transmitted to the network by the communication module 22 according to the selected behavioral model. Col. 5, lines 17-19.

It should also be noted that while a node of Eidson may implement a control function to produce a control signal, the control signal produced by a node is disclosed to be transmitted to a second and different node than the node that produced the control signal, where the control signal is implemented by the second node. Eidson does not disclose that a node that produces a control signal can implement its own control signal using a transducer module of the node, in any manner. Thus, the core module of Eidson is not a controller that produces process a control signal that is transmitted via a wireless link to a field device, as recited by the pending claims.

Furthermore, if a first node of Eidson that produces a control signal is considered the claimed controller (which Applicants submit it is not) and a transducer module/transducer of a second node of Eidson is considered the claimed field device (which Applicants submit it is not), Eidson still fails to disclose a wireless communication link between a process controller and a field device that transmits and receives both process control information, including a

control signal produced by the controller, and secondary information between the process controller and the field device. In particular, while the first node of Eidson may produce a control signal for implementation by the second node, or any component thereof, Eidson does not disclose transmitting or receiving secondary information between a first node and a second node, in any manner. As discussed above, Eidson discloses that configuration information or characteristic information may be provided by the transducer module to the core module of its transducer module to enable the core module to interface with a transducer. However, communication of this configuration information or characteristic information terminates at the core module. In fact, Eidson actually teaches away from communicating configuration or characteristic information of a transducer module between a first and a second node. Specifically, Eidson teaches a system in which each node can be removed or replaced without the need to modify or change other flexible nodes in its system. Requiring a first node to manage configuration or characteristic information of a second node would teach the need to maintain or update that information, which is opposite of Eidson. Because no secondary information is communicated between nodes, the wireless link between the transducer module 20 and the core module 18 does not transmit or receive secondary information from a first node to a transducer module 20 of a second node. It follows therefore, that the wireless link between the transducer module of Eidson and a core module of Eidson is not the recited wireless communication link.

Because neither McCain nor Eidson discloses a wireless communication link disposed between a controller and a field device that transmits and receives both process control information, (including a process control signal) and secondary information (non-process control information) between the controller and the field device, no combination of McCain and Eidson render any of pending claims 1-8, 16-23, 31, 32, 35, 36 and 44-56 obvious.

Each of newly added claims 49-56 depends from claim 1, and thus, for the same reasons discussed above with respect to claim 1, claims 49-56 are novel and non-obvious over any combination of McCain and Eidson. Moreover, each of claims 49-56 recite additional limitations that more clearly distinguish from McCain and Eidson. In particular, claims 49 and 50 recite that process control information is periodically produced and secondary information is non-periodically produced. As known in the art, control signals and measurement signals are generally periodically produced. Secondary information, such as configuration information or diagnostic information, is generally not periodically produced.

Claim 50 further limits claim 49 by reciting that process control information is periodically transmitted and secondary information is transmitted interspersed between some of the periodically transmitted process control information. Neither McCain nor Eidson disclose or teach a distinction in the types of information produced and/or transmitted by any of its components as periodic process control information and non-periodic secondary information.

Claims 51 and 52 recite that process control information includes parameter values specified by a standard control system communication protocol and that secondary information includes parameter values not specified by a standard control system communication protocol. Claim 52 recites that the standard control system communication protocol is a Fieldbus protocol. Neither McCain nor Eidson discloses communicating parameter values that are specified and unspecified by a standard communication protocol over a wireless communication link.

Claims 53-55 recite that secondary information is transmitted to a field device via a wireless communication link. While Eidson discloses sending configuration parameters from a transducer module (cited as the claimed field device) to a core module over a wireless link, Eidson does not disclose transmitting secondary information to its transducer module, in any manner. Thus, Eidson does not disclose transmitting secondary information to a field device via a wireless communication link. Moreover, claim 54 recites that the secondary information transmitted to the field device may be used to access a function of the field device that does not directly affect a physical process parameter and claim 55 recites that secondary information includes at least one of configuration information, calibration information and programming information. Eidson fails to disclose any of these recited uses of secondary information. McCain does not disclose a field device having a wireless communication link, much less disclose types of information communicated on such wireless communication links.

Claim 56 recites that secondary information is produced by a field device and transmitted to a process controller, where the secondary information includes diagnostic information or error code information. Eidson does not disclose diagnostic information or error code information, much less disclose producing diagnostic information or error code information by a field device and transmitting the diagnostic information or error code information to a controller via a wireless link.

It follows that claims 49-56, for the further reasons discussed above, are novel and non-obvious over the cited references. Applicants therefore submit that claims 49-56 are in condition for allowance.

CONCLUSION

For the foregoing reasons, Applicants respectfully request reconsideration and withdrawal of the rejections and allowance of claims 1-8, 16-23, 31, 32, 35, 36 and 44-56.

A two-month extension of time and corresponding extension fee is filed with this response, along with a fee for six additional dependent claims (eight new claims were added while two claims were cancelled). While no other fees are believed to be due with this response, the Commissioner is authorized to charge any fee deficiency or credit any overpayment to Deposit Account No. 13-2855.

If there are matters that can be discussed by telephone to further the prosecution of this application, Applicants respectfully request that the Examiner call its attorney at the number listed below.

Dated: October 22, 2007

Respectfully submitted,

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